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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 42

Serial Number: 08/113,561
Filing Date: 08/25/93
Appellant(s): Anderson et al.

David L. Parker

For Appellant

SUPPLEMENTAL EXAMINER'S ANSWER

Serial No. 08/113,561
Art Unit 1803

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Supplemental Examiner's Answer

Status of the appeal

Appellants' amendment filed under 37 CFR 1.116, as part of paper number 39, has been entered. Accordingly claim 50 has been canceled rendering the rejection of claim 50 under 35 U.S.C. § 112, second paragraph, moot.

10 Appellants petition filed under 37 CFR 1.181, as part of paper number 39, has been treated as a request for reconsideration to enter the amendment which would cancel claims 53 and 54. Claims 53 and 54 have been canceled.

The copy of the claims presented in Appellants' Reply to the Examiner's Answer, filed September 26, 1996, as paper number 38, is correct.

15 Accordingly, this appeal involves claims 2-4, 47, 51, 52, 55-58 and 60-67, which are the only claims pending in this application.

Grounds of Rejection.

The rejection of claim 50 under 35 U.S.C. § 112, second paragraph, is withdrawn in view of Appellants' cancellation of claim 50.

20 The following grounds of rejection remain applicable to the appealed claims.

Claims 2-4, 47, 51, 52, 55-58 and 60-67, under appeal, are rejected under 35 U.S.C. 103 as obvious over Goldman et al. in view of Applicants acknowledged state of the prior art as set forth in the examiner's answer at pages 3-5, for the reasons of record previously applied to claims 2-4, 47, 50-58 and 60-67.

25 Claims 2-4, 47, 51, 52, 55-58 and 60-67, under appeal, are rejected under 35 U.S.C. § 103 as being obvious over Lundquist et al. as set forth in the examiner's answer at page 5 for the reasons of record previously applied to claims 2-4, 47, 50-58 and 60-67.

5 **Appellants' Arguments.**

Under section 1, page 3 of the reply brief, with regard to the motivation to make the claimed composition in both rejection under 35 U.S.C. § 103, Appellants argue:

10 Neither of these references, alone or in combination with secondary references, teach or suggest transgenic corn bearing the specific genes set forth in the appealed claims. They therefore provide no motivation for preparing transgenic corn bearing these particular genes and contain no evidence that such an undertaking would be successful under the test of *In re Vaeck*, 20 USPQ 2d 1438 (Fed. Cir. 1991).

15 The claims under appeal are directed to transgenic maize comprising specific classes of DNA¹ in which the final composition, the fertile transgenic maize plant, must by claim limitation "... exhibit one or more phenotypic characteristics that render it identifiable over the corresponding untransformed maize plant which does not comprise said gene, ..." Accordingly, the motivation to place each of the known genes into maize is provided by the desire to provide a transgenic plant that express that gene for its known properties.

20 Under section 2, page 4 of the reply brief, Appellants appear to raise the level of obviousness to that of "anticipation." Appellants argue:

Until the claimed combination was disclosed in the present application, it was unlikely that one of ordinary skill in the art would have contemplated it. What cannot be contemplated or conceived cannot be obvious. *In re Deuel*, 34 USPQ2d 1210 (Fed. Cir. 1995).

25 As set forth in the examiner's answer, beginning at the bottom of page 6 through page 7, each of the claimed genes fall within art recognized classes, such as, a herbicide resistance gene or a selectable marker gene. Appellants do not argue that the specific gene species that have been claimed, or their effects, are unknown, and in fact, classify each accordingly to their recognized agronomic function. Clearly the person having ordinary skill in the art would have conceived the placement of a herbicide resistance gene or a selectable marker, and the like, into maize for their known and expected benefits.
30 Appellants have not established that "it was unlikely that one of ordinary skill in the art would have contemplated it."

¹ See bottom of page 6 to the middle of page 7 of the examiner's answer.

5 Appellants cite *In re Jones*, a case which dealt with the issue of chemical similarities in which a claimed primary amine with an ester linkage was not made obvious by the citation of a secondary amine. The Court noted, however, that generalization is to be avoided in so far as specific structures are alleged to be *prima facie* obvious one from the other. In fact the *Jones* Court, citing *In re Dillion*, 919 F.2d 668, 692-94 16 USPQ2d 1897, 1900-02 (Fed. Cir. 1990), among other cases, noted that some structural
10 compounds have given rise to *prima facie* obviousness. The Court then went on to cite *In re Fine*, 837 F.2d 1071, 1074, 5USPQ2d 1596, 1598-99 (Fed. Cir. 1988) noting:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

15 While the Court found no such suggestion for *In re Jones*, the prior art of record, Goldman et al. in view of Applicants admitted state of the prior art, or Lundquist et al. alone, provide sufficient motivation to combine maize plants and known agronomic genes to yield a maize plant having the very characteristics which would be expected given the knowledge of what characteristics the gene is known to confer.

20 Under section 3, page 6 of the reply brief, Appellants argue that not all of the genes claimed have been studied transgenically in a plant other than corn or successfully used to achieve a desired transgenic trait. Appellants here are confusing the motivation to place a known gene in maize from the claimed effect that gene would provide in maize. The "motivation" to express a drought tolerance gene in maize, for example, is manifest, that is, to avoid the effects of drought on a plant. The only effect that
25 said drought tolerance gene must have to make the claimed invention *prima facie* obvious is that it have a phenotype which allows the person having ordinary skill in the art to distinguish it from a untransformed plant. The expression of said gene at merely detectable levels or the simple presence of the known DNA in the plant would allow the person having ordinary skill in the art to detect such a distinguishing phenotype.

30 With regard to Appellants' remarks in the first full paragraph of page 7 of the reply brief, the distinction between monocots and dicots is not an issue in this case. The expression of a gene in tobacco, such as the gene for *Bt*, as disclosed in Lundquist et al. functioned as it did in tobacco, that is, the maize plant expressed the *Bt* endotoxin for its known and expected results -- transgenic maize which was toxic to certain insects, just as transgenic tobacco was.

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5 The citation of *In re Goodman*, 29 U.S.P.Q. 2010 (Fed. Cir. 1993) is clearly not on point as there is no issue of transformation techniques on appeal, as was the case in *Goodman*, but merely transgenic plants.

Conclusion

10 Upon a careful review of Appellants' arguments it is submitted that the insertion of known genes, having known characteristics, into maize plants which are known to be transformable, in order to obtain the expected agronomic benefits of those genes remains *prima facie* obvious. For the above reasons, it is believed that the two rejections under 35 U.S.C. § 103 should be sustained.

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Note the attached Advisory Action regarding the amendments and petitions filed under 37 CFR 1.116, 1.127 and 1.181.

20 The new ground of rejection set forth in the examiner's answer has been reviewed and approved.



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